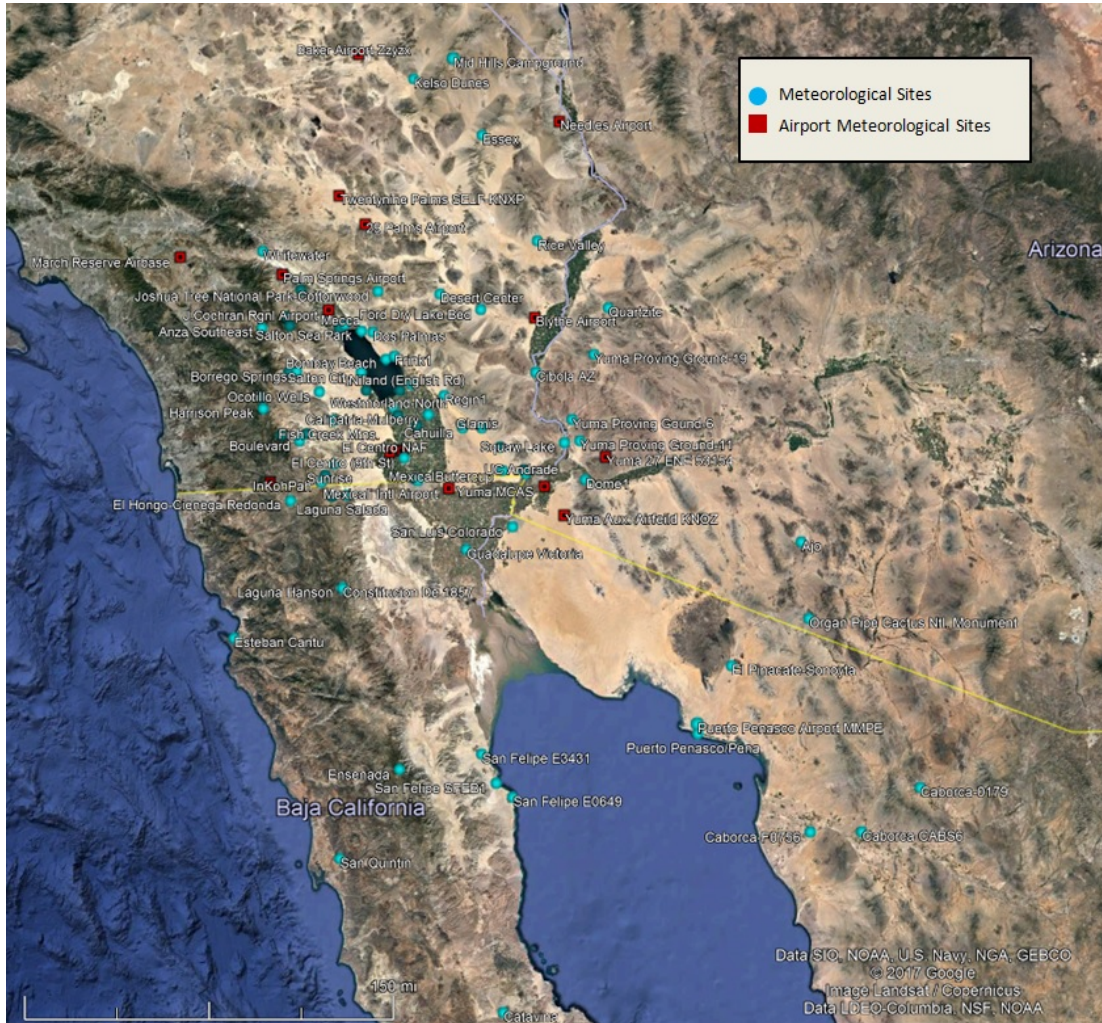


## Appendix B

### Meteorological Data

This section contains meteorological data derived from various regulatory and non-regulatory sites. The data provides a comparative analysis of winds speed, wind direction, wind gusts and concentration data. Please note that meteorological instruments measure at different heights, and at different time intervals. By taking, the actual time of measurement and assuring that all data represented is in Pacific Standard Time (PST) there is uniformity of the data. In addition, not all stations measure at the exact same time, i.e. measurements at 053 and 056 therefore, comparisons are measurements within a 60-minute period. While there may be some overlapping and slight differences the comparative analysis provides the reader with a better understanding of the regional effect of the Exceptional Event.

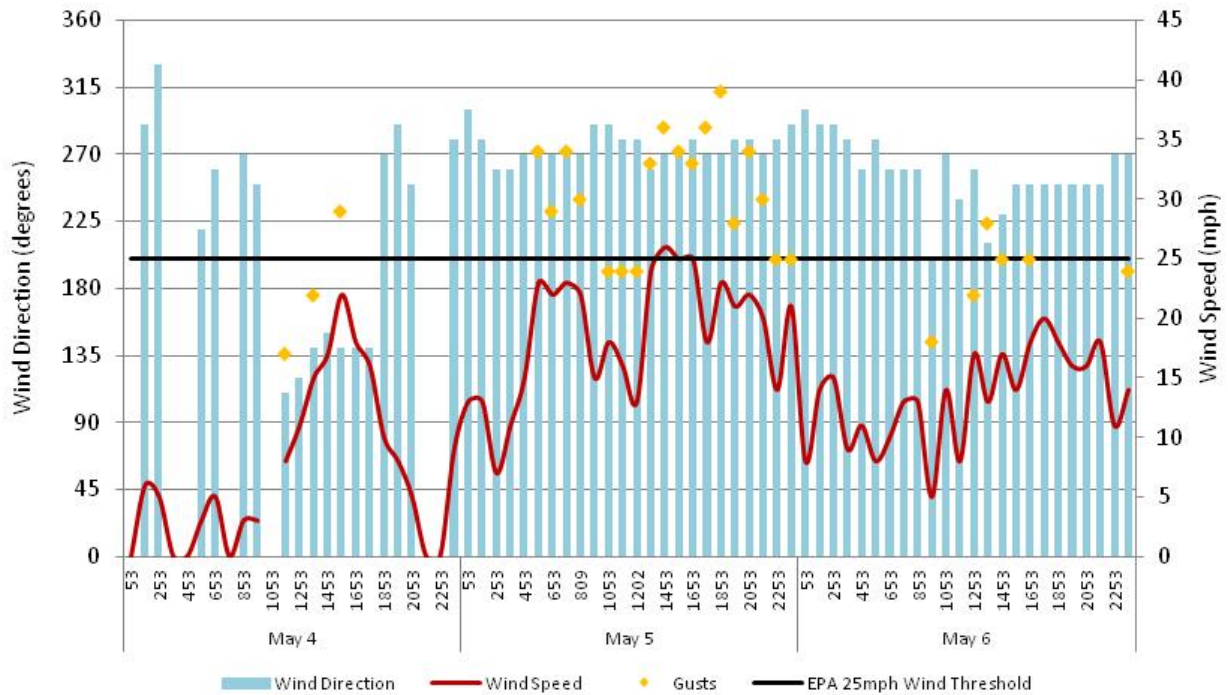
**FIGURE B-1**  
**POTENTIAL METEOROLOGICAL SITES USED IN EXCEPTIONAL EVENT DOCUMENTS**



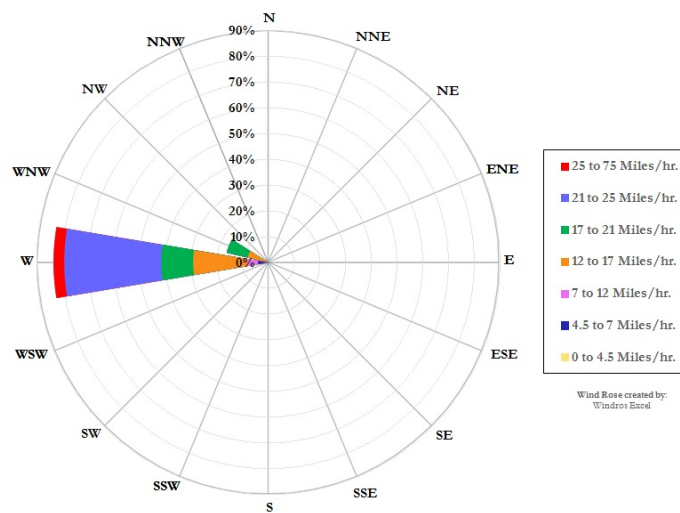
**Fig. B-1:** Depicts all the sites from which the ICAPCD may access meteorological data. Base map and larger locator map from Google Earth.

### IMPERIAL COUNTY SITES B-2 THROUGH B-9

**FIGURE B-2**  
**IMPERIAL COUNTY AIRPORT (KIPL)**  
**WIND SPEED, GUSTS & DIRECTION**

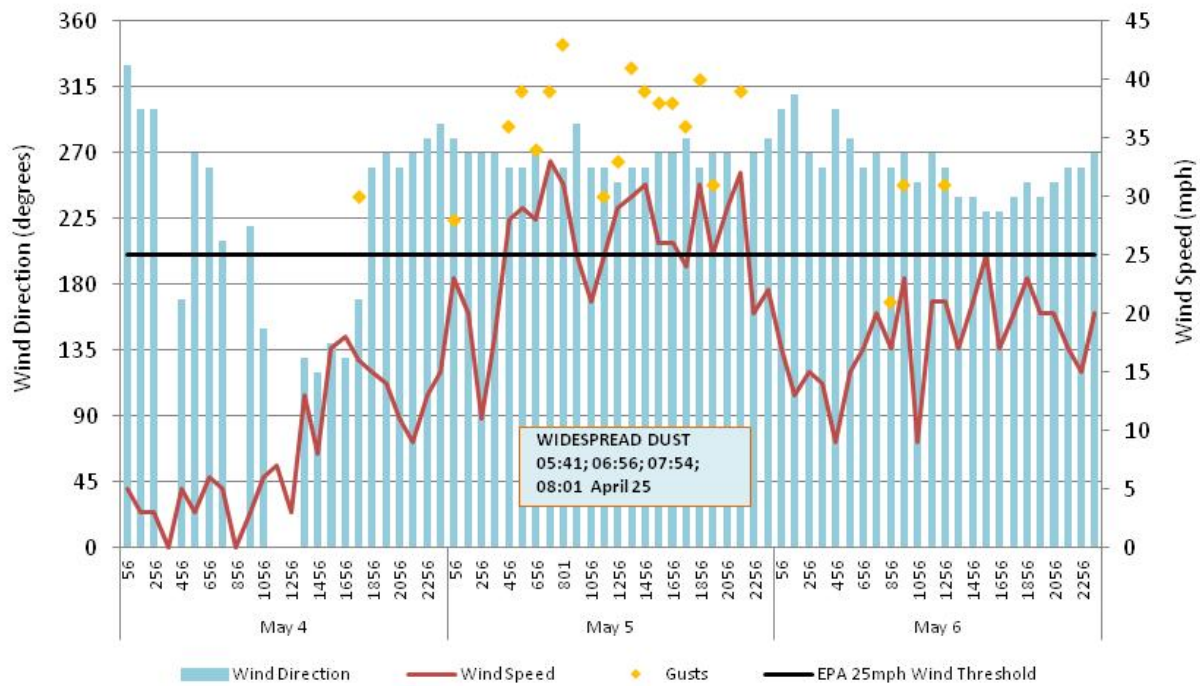


**FIGURE B-3**  
**KIPL WIND ROSE – MAY 5**

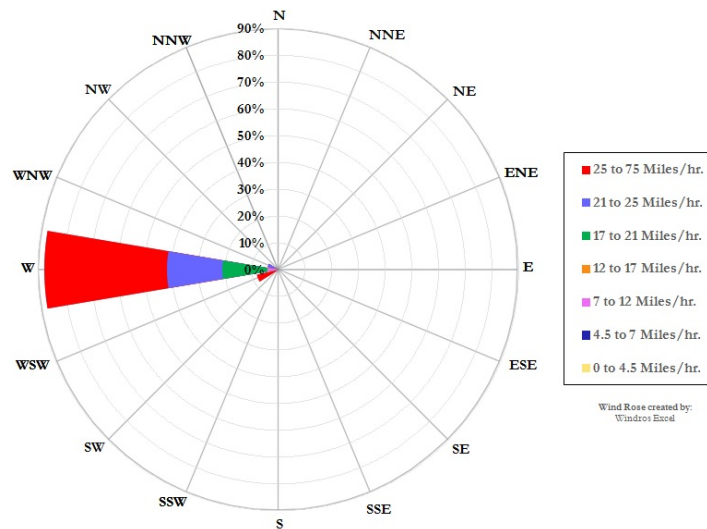


**Figs. B-2 & B-3:** Imperial Airport (KIPL) meteorological data shows that both winds and gusts exceeded the 25 mph wind threshold. Data from the NCEI's QCLCD system.

**FIGURE B-4**  
**EL CENTRO NAF (KNJK)**  
**WIND SPEED, GUSTS & DIRECTION**



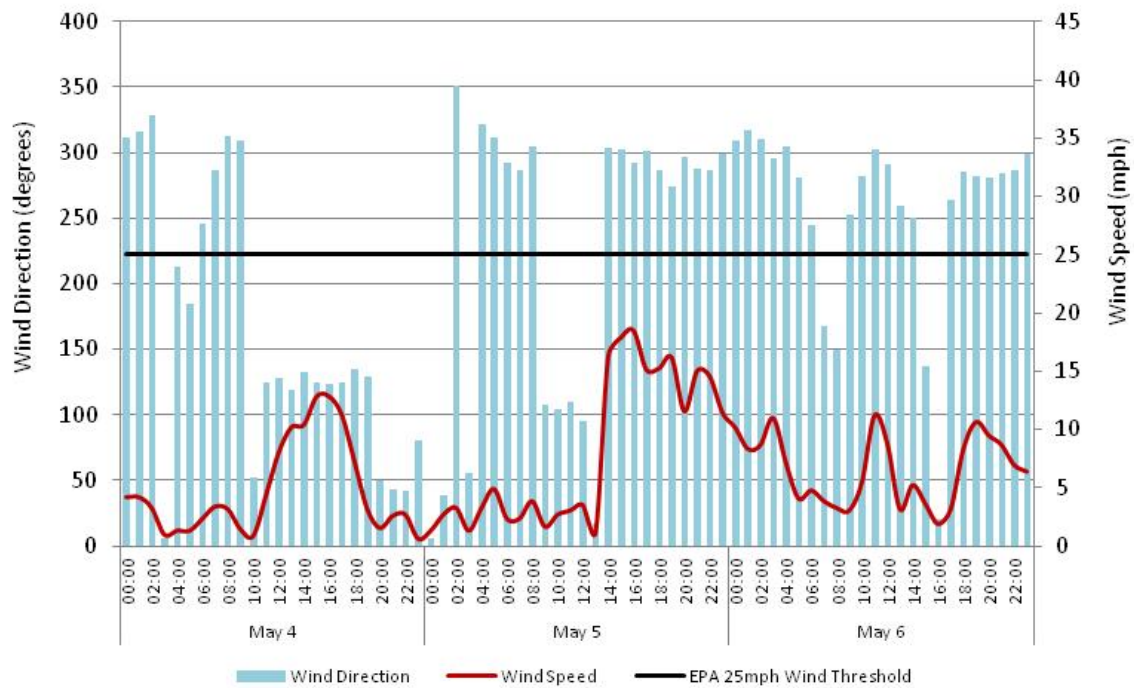
**FIGURE B-5**  
**KNJK WIND ROSE - MAY 5**



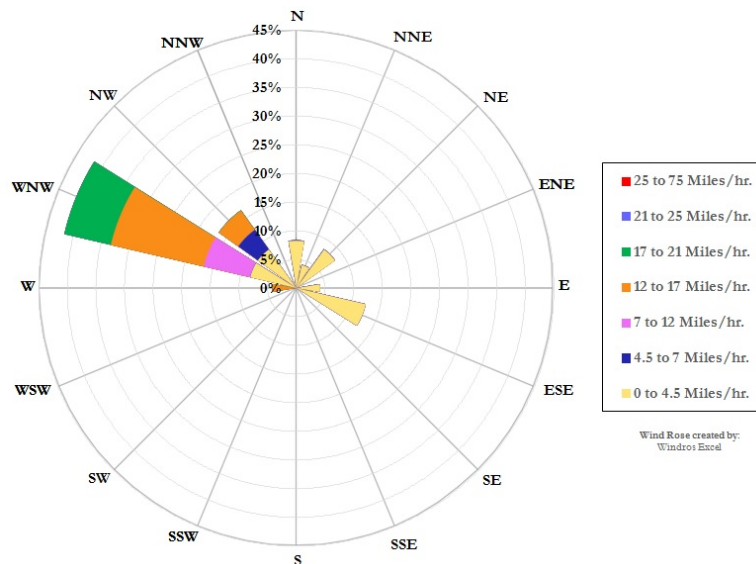
**Figs. B-4 & B-5:** El Centro NAF (KNJK) meteorological data shows that both winds and gusts exceeded the 25 mph wind threshold. Data from the NCEI's QCLCD system.



**FIGURE B-6  
CALEXICO  
WIND SPEED & DIRECTION**

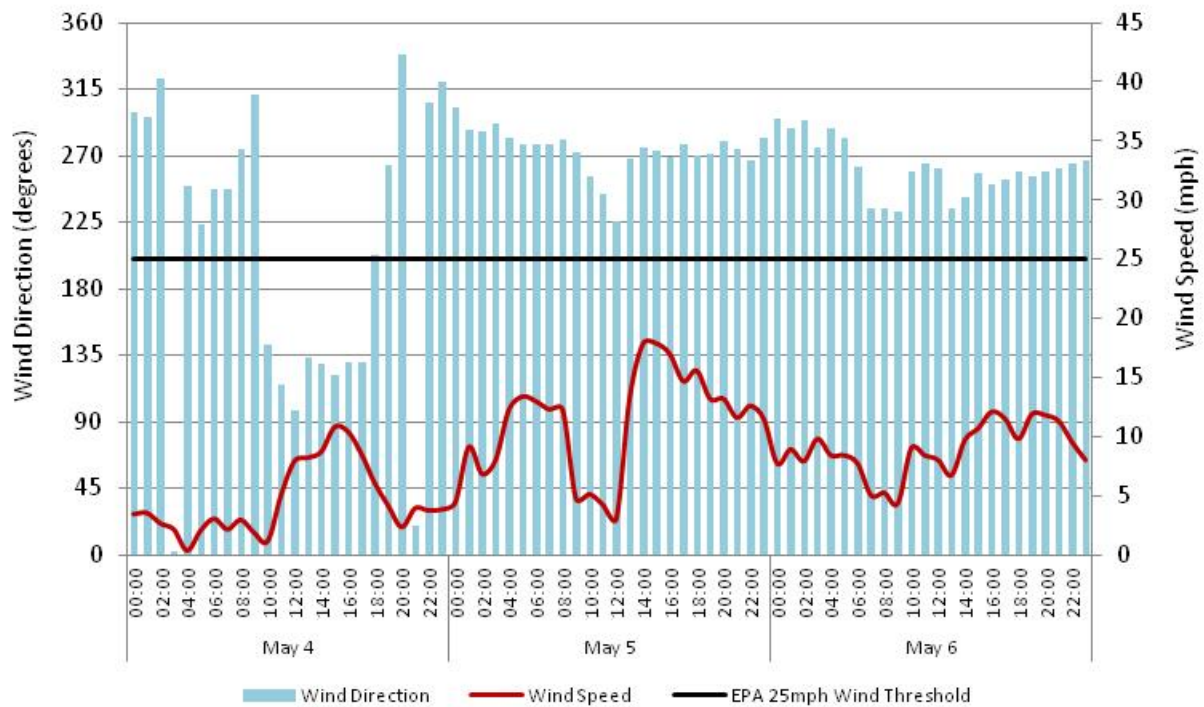


**FIGURE B-7  
CALEXICO WIND ROSE - MAY 5**

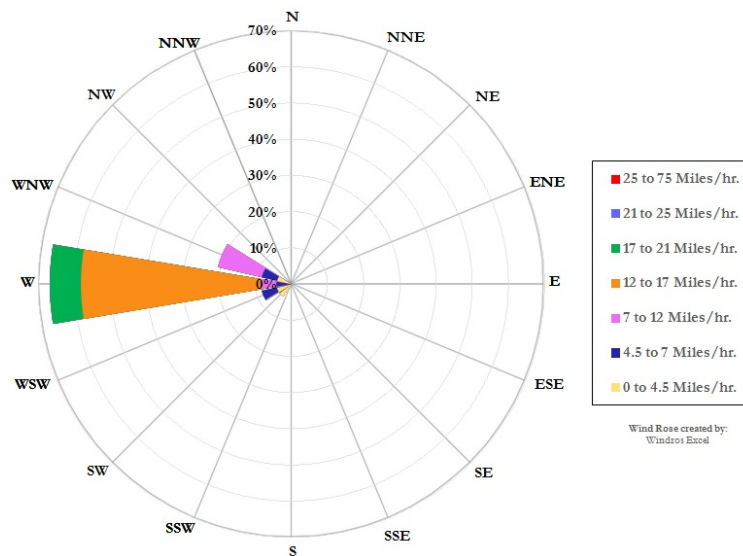


**Figs. B-6 & B-7:** Although winds did not exceed the 25 mph wind threshold at Calexico, it still had elevated concentrations. Data from the EPA's AQS system.

**FIGURE B-8  
EL CENTRO  
WIND SPEED & DIRECTION**

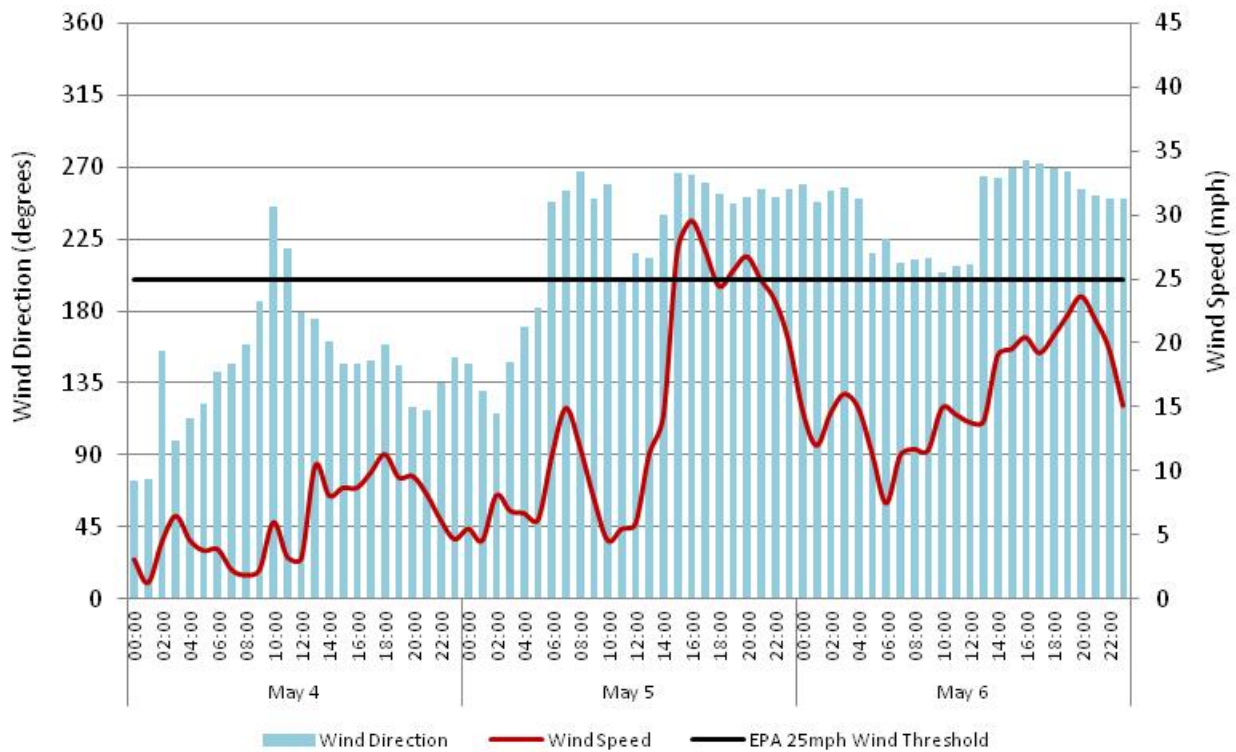


**FIGURE B-9  
EL CENTRO WIND ROSE- MAY 5**

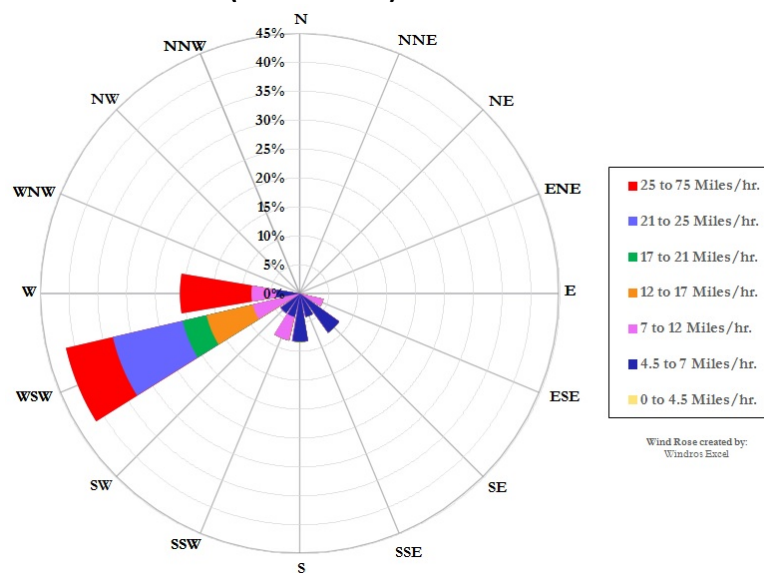


**Figs. B-8 & B-9:** Winds did not exceed the 25 mph wind threshold at El Centro, it still had elevated concentrations. Data from the EPA's AQS system.

**FIGURE B-10**  
**NILAND (ENGLISH RD)**  
**WIND SPEED & DIRECTION**

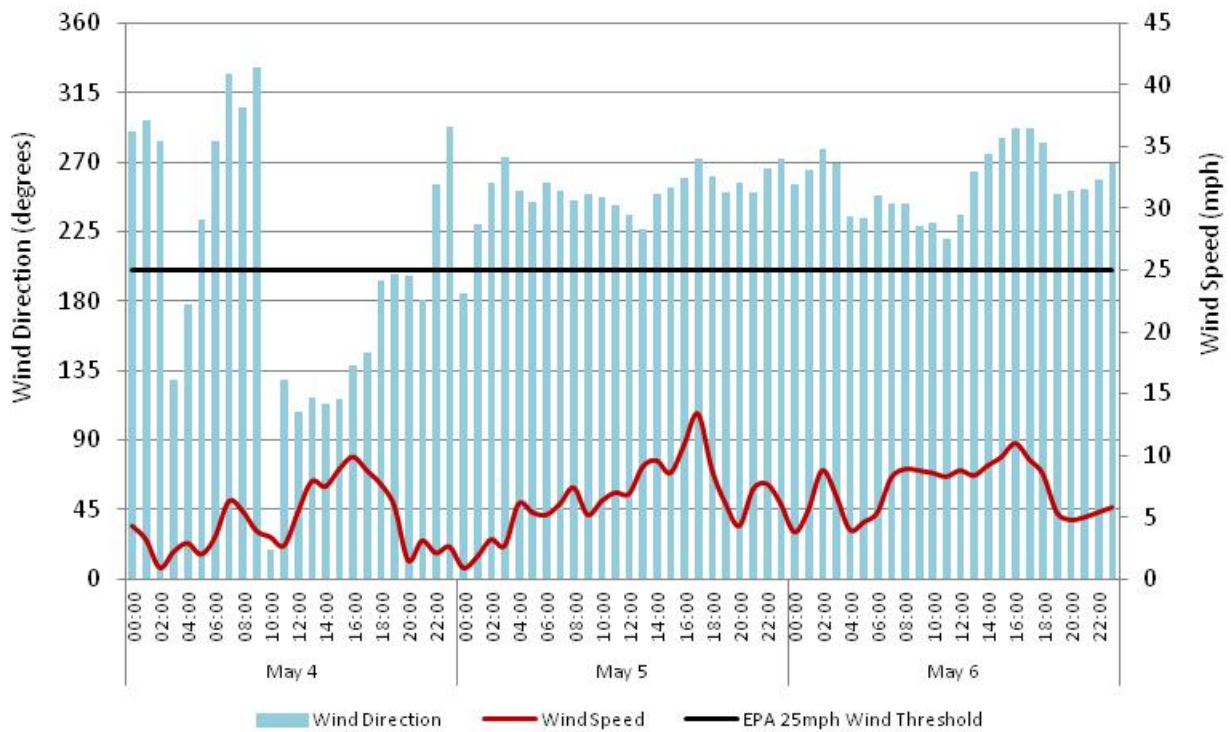


**FIGURE B-11**  
**NILAND (ENGLISH RD) WIND ROSE – MAY 5**

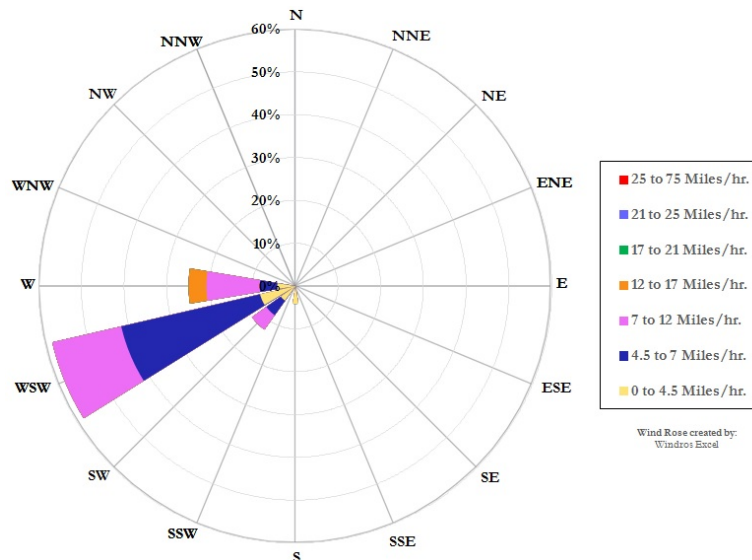


**Figs. B-10 & B-11:** Winds exceeded the 25 mph wind threshold at Niland, which helps account for its exceedance. Data from the EPA's AQS system.

**FIGURE B-12**  
**WESTMORLAND**  
**WIND SPEED & DIRECTION**



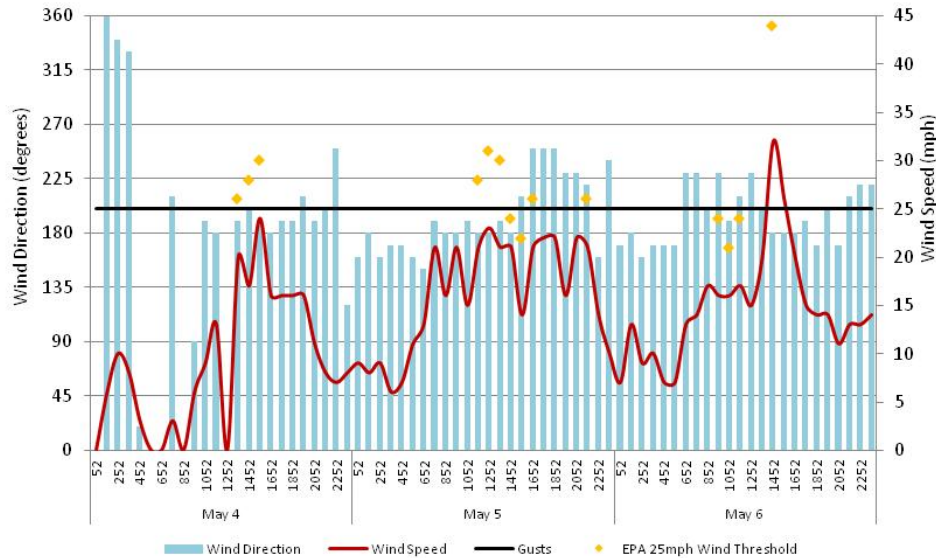
**FIGURE B-13**  
**WESTMORLAND WIND ROSE – MAY 5**



**Figs. B-12 & B-13:** Winds did not exceed the 25 mph wind threshold at Westmorland. However, winds were much higher at upstream sites and transported dust downstream where the lower winds allowed dust to be deposited on the monitor. Data from the EPA's AQS system.

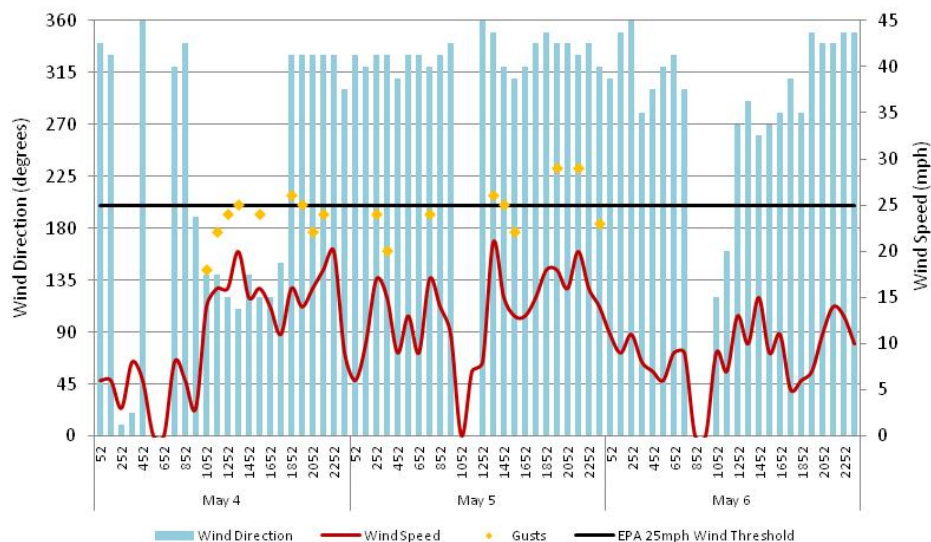
## EASTERN RIVERSIDE COUNTY AIRPORTS

**FIGURE B-14**  
**BLYTHE AIRPORT (KBLH)**  
**WIND SPEED, GUSTS & DIRECTION**



**Fig. B-14:** Although winds did not exceed the 25 mph wind threshold at KBLH, gusts did, supporting that gusty winds were felt over a wide area. Data from the NCEI's QCLCD system.

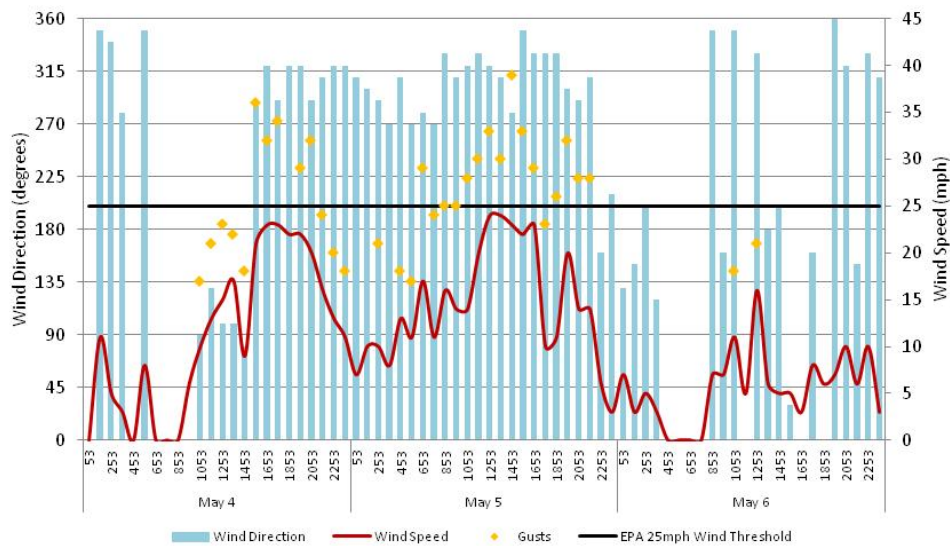
**FIGURE B-15**  
**DESERT RESORTS (aka J.COCHRAN-THERMAL) AIRPORT (KTRM)**  
**WIND SPEED, GUSTS & DIRECTION**



**Fig. B-15:** Although winds did not exceed the 25 mph wind threshold at KTRM, gusts did, supporting that gusty winds were felt over a wide area. Data from the NCEI's QCLCD system.



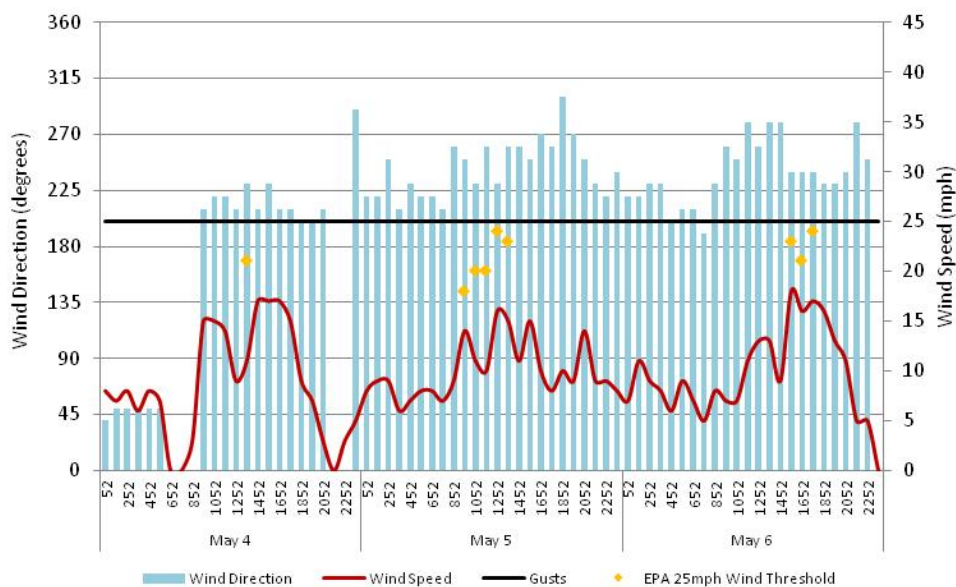
**FIGURE B-16**  
**PALM SPRINGS INTERNATIONAL AIRPORT (KPSP)**  
**WIND SPEED, GUSTS & DIRECTION**



**Fig. B-16:** Although winds did not exceed the 25 mph wind threshold at KPSP, gusts did, supporting that gusty winds were felt over a wide area. Data from the NCEI's QCLCD system.

#### SOUTHEASTERN SAN DIEGO COUNTY

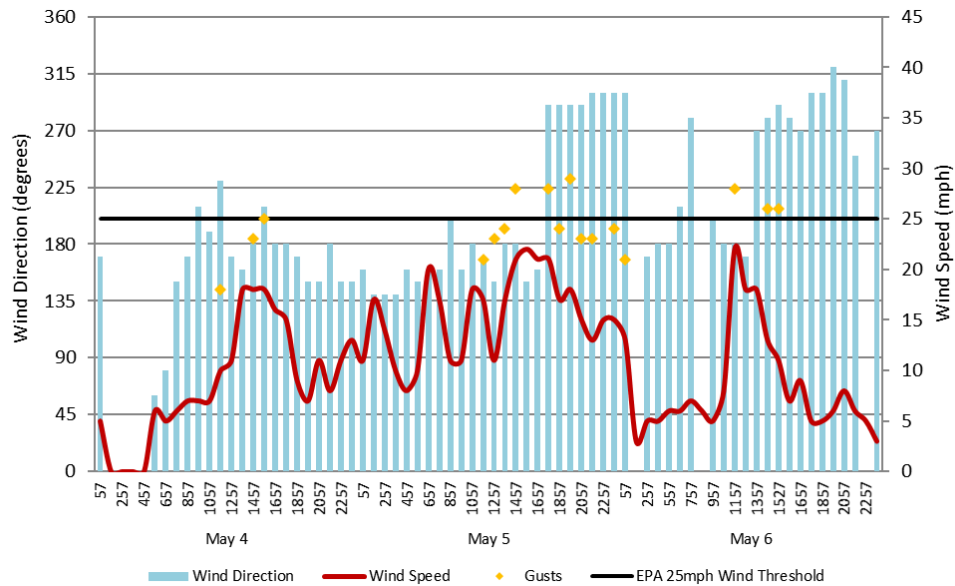
**FIGURE B-17**  
**CAMPO AIRFIELD (KCZZ)**  
**WIND SPEED, GUSTS & DIRECTION**



**Fig. B-17:** Although winds did not exceed the 25 mph wind threshold at KCZZ, gusts did, supporting that gusty winds were felt over a wide area. Data from the NCEI's QCLCD system.

## SOUTHWESTERN ARIZONA

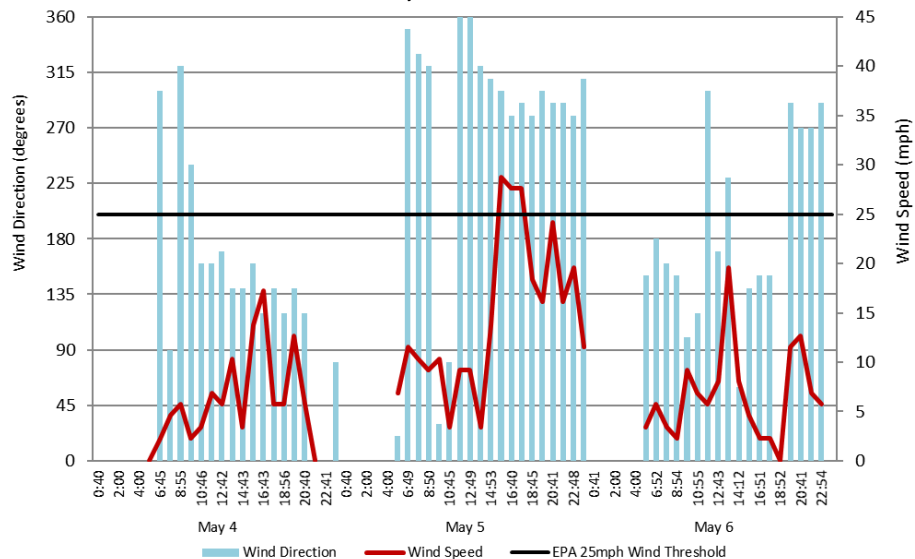
**FIGURE B-18**  
**YUMA, ARIZONA MCAS (KNYL)**  
**WIND SPEED, GUSTS & DIRECTION**



**Fig. B-18:** Although winds did not exceed the 25 mph wind threshold at KNYL, gusts did, supporting that gusty winds were felt over a wide area. Data from the NCEI's QCLCD system.

## MEXICO

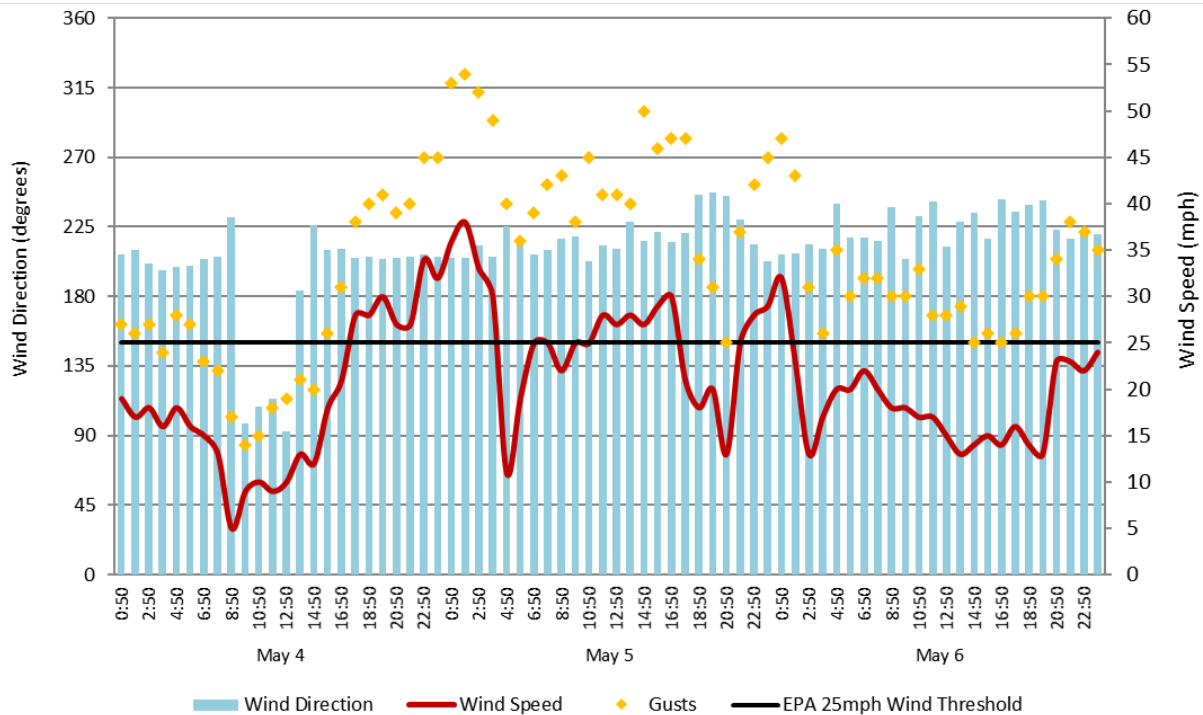
**FIGURE B-19**  
**MEXICALI, MEXICO (MMML)**  
**WIND SPEED, GUSTS & DIRECTION**



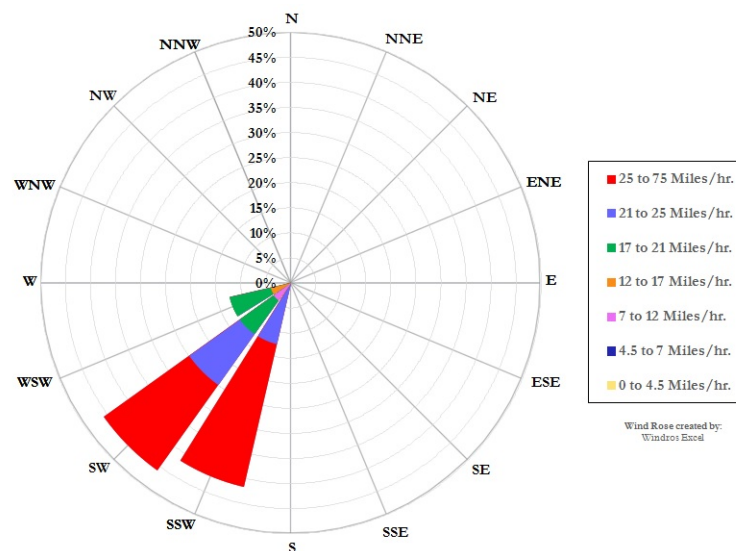
**Fig. B-19:** Winds exceeded the 25 mph wind threshold at MMML, which supports the regional nature of the event. Data from the University of Utah's MesoWest system.

## UPSTREAM SITES

**FIGURE B-20**  
**MOUNTAIN SPRINGS GARDE**  
**WIND SPEED & DIRECTION**

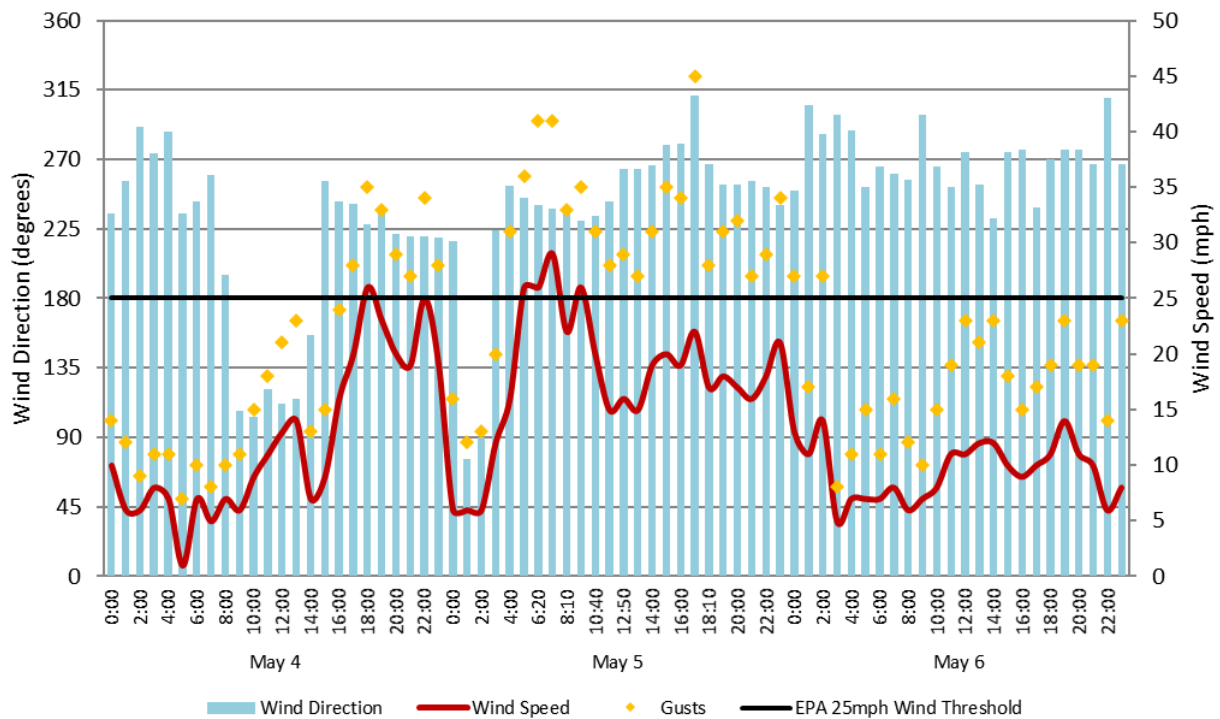


**FIGURE B-21**  
**MOUNTAIN SPRINGS GRADE WIND ROSE – MAY 5**

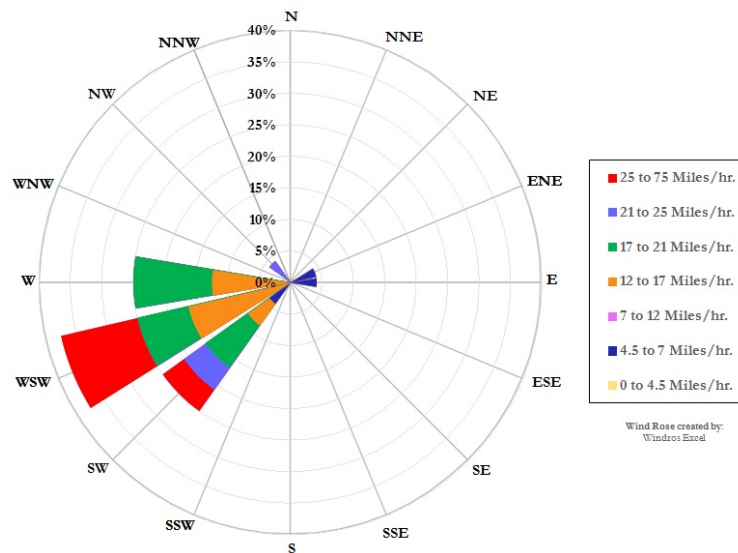


**Figs. B-20 & B-21:** Winds and gusts exceeded the 25 mph wind threshold at Mountain Springs Grade (Station ID TNSC1) located at 2,044 ft elevation on the desert slopes. Data from the University of Utah's MesoWest.

**FIGURE B-22**  
**SUNRISE-OCOTILLO**  
**WIND SPEED, GUSTS & DIRECTION**



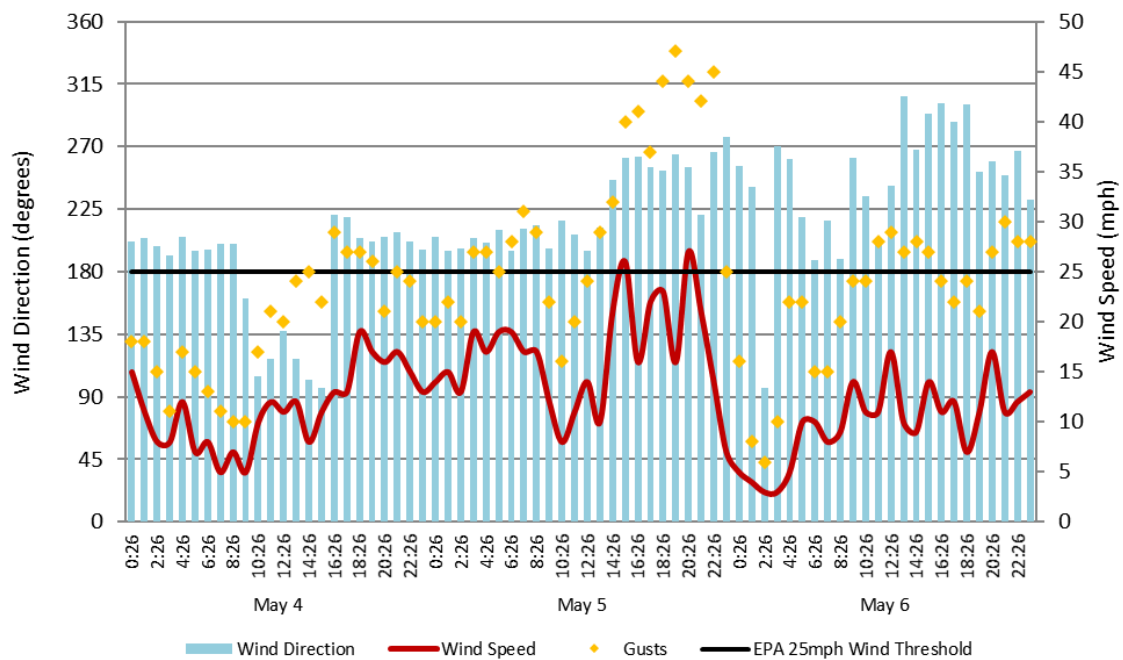
**FIGURE B-23**  
**SUNRISE OCOTILLO WIND ROSE – MAY 5**



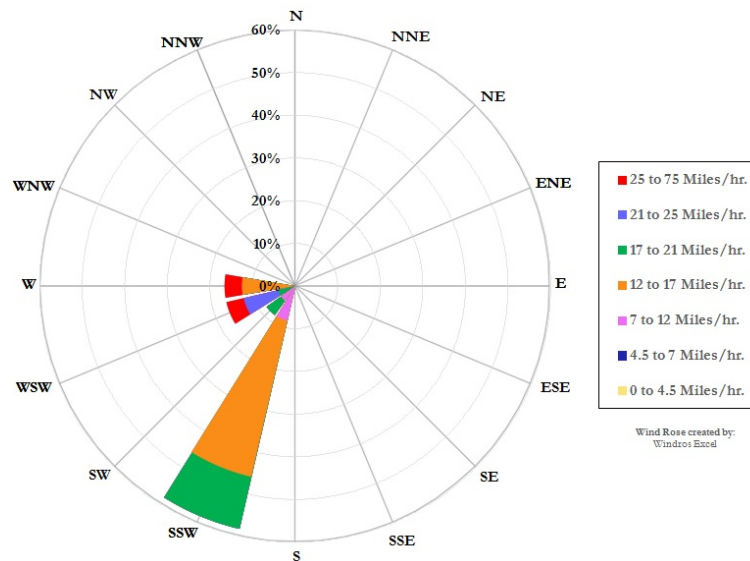
**Figs. B-22 & B-23:** Winds and gusts exceeded the 25 mph wind threshold at Sunrise-Ocotillo (Station ID IMPSD) located at 695 ft elevation near the desert floor. Data from the University of Utah's MesoWest.



**FIGURE B-24**  
**FISH CREEK MOUNTAINS**  
**WIND SPEED, GUSTS & DIRECTION**



**FIGURE B-25**  
**FISH CREEK MTNS. WIND ROSE – MAY 5**

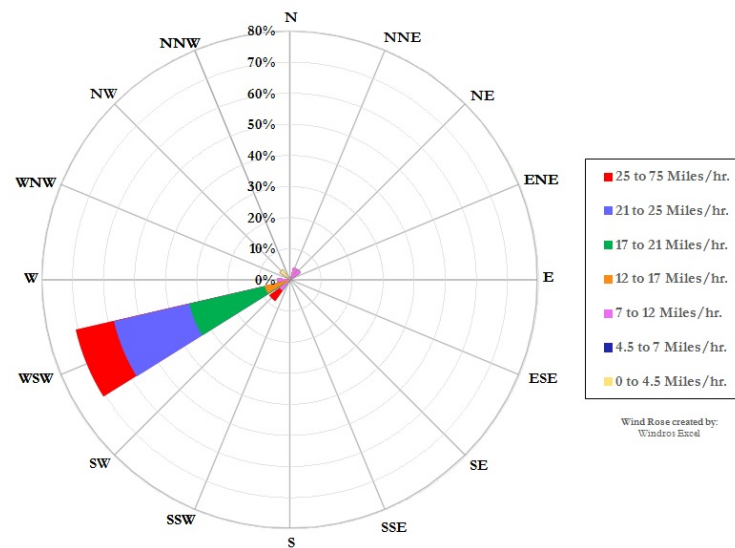


**Figs. B-24 & B-25:** Winds and gusts exceeded the 25 mph wind threshold at Fish creek Mountains. The gusty winds helped transport downstream dust that was suspended in the air. FCM is at Sunrise-Ocotillo located at 781 ft elevation near the desert floor. Data from the University of Utah's MesoWest.

**FIGURE B-26**  
**NAVAL TEST BASE**  
**WIND SPEED & DIRECTION**



**FIGURE B-27**  
**NAVAL TEST BASE WIND ROSE – MAY 5**



**Figs. B-26 & B-27:** Winds and gusts exceeded the 25 mph wind threshold at the (former) Naval Test Base. The gusty winds helped transport dust downstream. Data from AQMIS2.

### FIGURE B-28 IMPERIAL COUNTY AIRPORT (KIPL) QCLCD DATA

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information Service  
Elev: -58 ft. Lat: 32.8342° N Lon: -115.5786° W  
Station: IMPERIAL CO AIRPORT, CA US WBAN:03144

Local Climatological Data  
Hourly Observations  
May 2016  
Generated on 06/02/2017

National Centers for Environmental Information  
151 Patton Avenue  
Asheville, North Carolina 28801

Date	Time (LST)	Station Type	Sky Conditions	Visi- bility	Weather Type (see documentation) AU   AW   MW	Dry Bulb Temp		Wet Bulb Temp		Dew Point Temp		Rel Hum %	Wind Speed (MPH)	Wind Dir (Deg)	Wind Gusts (MPH)	Station Press (inHg)	Press. Tend	Net 3-Hr Change (inHg)	Sea Level Press. (inHg)	Report Type	Precip Total (in)	Alti-meter Setting (inHg)
						(F)	(C)	(F)	(C)	(F)	(C)											
05	0053	7	CLR:00	10.00		74	23.3	64	18.0	43	6.1	33	13	300		29.76		+0.03	29.70	FM-15	0.00	29.70
05	0153	7	CLR:00	10.00		70	21.1	61	15.9	47	8.3	44	13	280		29.77			29.71	FM-15	0.00	29.71
05	0253	7	CLR:00	10.00		67	19.4	58	14.5	46	7.8	47	7	260		29.72			29.72	FM-15	0.00	29.72
05	0353	7	CLR:00	10.00		66	18.9	57	14.1	46	7.8	49	11	260		29.79		-0.04	29.74	FM-15	0.00	29.73
05	0453	7	CLR:00	8.00		65	18.3	57	13.8	47	8.3	52	15	270		29.80			29.74	FM-15	0.00	29.74
05	0544	7	SCT:04 7	3.00	HZ:7  FU:05  HZ:05	67	19.4	58	14.6	47	8.3	49	23	270	34	29.83				FM-16		29.77
05	0551	6	SCT:04 7	2.50	HZ:7  FU:05  HZ:05	66	19.0	57	14.1	46	8.0	49	22	270	34	29.82				FM-16		29.76
05	0553	7	SCT:04 7	3.00	HZ:7  FU:05  HZ:05	67	19.4	58	14.5	46	7.8	47	21	270	32	29.82			29.77	FM-15	0.00	29.76
05	0653	7	CLR:00	10.00		69	20.6	60	15.4	46	7.8	44	22	270	29	29.83	1	-0.02	29.77	FM-15	0.00	29.77
05	0751	7	SCT:04 8	3.00	HZ:7  FU:05  HZ:05	72	22.0	62	16.8	45	7.0	38	23	270	34	29.84				FM-16		29.78
05	0753	7	BKN:07 8	2.50	HZ:7  FU:05  HZ:05	71	21.7	61	16.3	46	7.8	41	23	270	34	29.84			29.78	FM-15	0.00	29.78
05	0809	7	SCT:04 8	4.00	HZ:7  FU:05  HZ:05	73	22.8	63	17.3	46	7.8	38	22	270	30	29.84				FM-16		29.78
05	0853	7	CLR:00	10.00		75	23.9	65	18.4	45	7.2	34	18	270	25	29.84			29.78	FM-15	0.00	29.78
05	0953	7	CLR:00	10.00		79	26.1	70	21.0	42	5.6	27	15	290		29.83	8	+0.00	29.77	FM-15	0.00	29.77
05	1053	7	CLR:00	10.00		82	27.8	73	23.0	42	5.6	24	18	290	24	29.81			29.75	FM-15	0.00	29.75
05	1153	7	CLR:00	10.00		85	29.4	77	24.9	43	6.1	23	16	280	24	29.80			29.74	FM-15	0.00	29.74
05	1202	7	CLR:00	10.00		84	28.9	76	24.2	43	6.1	24	13	280	24	29.79				FM-16		29.73
05	1253	7	CLR:00	10.00		85	29.4	77	25.2	42	5.6	22	7	220		29.78	6	+0.05	29.72	FM-15	0.00	29.72
05	1319	7	CLR:00	10.00		85	29.4	77	24.9	43	6.1	23	22	260	30	29.78				FM-16		29.72
05	1353	7	CLR:00	10.00		83	28.3	74	23.5	43	6.1	24	24	260	33	29.77			29.71	FM-15	0.00	29.71
05	1453	7	CLR:00	10.00		82	27.8	74	23.2	41	5.0	23	26	270	36	29.76			29.70	FM-15	0.00	29.70
05	1553	7	CLR:00	10.00		78	25.6	70	20.9	39	3.9	25	25	270	34	29.75	6	+0.03	29.69	FM-15	0.00	29.69
05	1653	7	CLR:00	10.00		77	25.0	68	20.2	39	3.9	26	25	280	33	29.74			29.67	FM-15	0.00	29.68
05	1753	7	CLR:00	10.00		73	22.8	64	17.5	41	5.0	32	18	270	36	29.75			29.69	FM-15	0.00	29.69
05	1853	7	CLR:00	10.00		70	21.1	61	15.8	43	6.1	38	23	270	39	29.76	3	-0.01	29.70	FM-15	0.00	29.70
05	1953	7	CLR:00	10.00		68	20.0	59	14.9	44	6.7	42	21	280	28	29.79			29.73	FM-15	0.00	29.73
05	2053	7	CLR:00	10.00		68	20.0	59	14.9	45	7.2	44	22	280	34	29.81			29.75	FM-15	0.00	29.75
05	2153	7	CLR:00	10.00		67	19.4	58	14.5	45	7.2	45	20	270	30	29.82	1	-0.06	29.76	FM-15	0.00	29.76
05	2253	7	CLR:00	10.00		66	18.9	57	14.0	44	6.7	45	14	280	25	29.81			29.75	FM-15	0.00	29.75
05	2353	7	CLR:00	10.00		66	18.9	57	14.0	45	7.2	47	21	290	25	29.80			29.74	FM-15	0.00	29.74

### FIGURE B-29 EL CENTRO NAF (KNJK) QCLCD DATA

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information Service  
Elev: -42 ft. Lat: 32.8167° N Lon: -115.6833° W  
Station: EL CENTRO NAF, CA US WBAN:23199

Local Climatological Data  
Hourly Observations  
May 2016  
Generated on 06/02/2017

National Centers for Environmental Information  
151 Patton Avenue  
Asheville, North Carolina 28801

Date	DRI. EL CENTRO RAP, CA 95																					
	Time (LST)	Station Type	Sky Conditions	Vis- ibility	Weather Type (see documentation)  AU   AW   MW	Dry Bulb Temp		Wet Bulb Temp		Dew Point Temp		Rel Hum %	Wind Speed (MPH)	Wind Dir (Deg)	Wind Gusts (MPH)	Station Press (inHg)	Press. Tend	Net 3-Hr Change (inHg)	Sea Level Press. (inHg)	Report Type	Precip Total (in)	Alti-meter Setting (inHg)
						(F)	(C)	(F)	(C)	(F)	(C)											
05	0056	7	CLR:00	10.00									23	280	28	29.76	8	+0.02	29.77	FM-15	T	29.72
05	0156	7	CLR:00	10.00									20	270		29.77			29.78	FM-15	T	29.73
05	0256	7	CLR:00	10.00									11	270		29.78			29.79	FM-15	0.00	29.74
05	0356	7	CLR:00	10.00									18	270		29.81			29.82	FM-15	0.00	29.77
05	0456	7	FEW:02 70 FEW:02 200 BKN:07 280	10.00		65	18.3	57	13.7	46	7.8	51	28	260	36	29.81			29.81	FM-15	T	29.77
05	0541	7	FEW:02 70 BKN:07 280	6.00	DU:5  DU:07	66	18.9	57	14.0	45	7.2	47	29	260	39	29.81				FM-16		29.77
05	0556	7	FEW:02 70 BKN:07 280	6.00	DU:5  DU:07	66	18.9	57	14.0	45	7.2	47	26	270	34	29.82			29.83	FM-15	0.00	29.78
05	0603	7	FEW:02 7	6.00	DU:5  DU:07	66	19.0	57	14.0	45	7.0	46	28	260		29.82				FM-16		29.78
05	0656	7	FEW:02 70 BKN:07 280	10.00		67	19.4	58	14.5	45	7.2	45	28	270	34	29.84	3	-0.02	29.84	FM-15	0.00	29.80
05	0754	6	BKN:07 280	2.50V	DU:5  DU:07	70	21.0	61	15.8	45	7.0	40	33	260	39	29.85				FM-16		29.81
05	0756	7	BKN:07 280	2.50	DU:5  DU:07	70	21.1	61	15.8	44	6.7	39	30	260	39	29.85			29.85	FM-15	0.00	29.81
05	0801	7	BKN:07 280	3.00	DU:5  DU:07	70	20.9	61	15.8	43	6.1	38	31	260	43	29.85				FM-16		29.81
05	0818	7	FEW:02 70 BKN:07 280	6.00	DU:5  DU:07	70	21.1	61	15.8	43	6.1	38	29	260	39	29.85				FM-16		29.81
05	0856	7	FEW:02 70 BKN:07 280	8.00		74	23.3	64	18.0	43	6.1	33	26	270		29.84			29.84	FM-15	0.00	29.80
05	0956	7	FEW:02 70 BKN:07 280	10.00		79	25.9	70	21.4	40	4.4	25	25	290		29.83	8	+0.01	29.83	FM-15	0.00	29.79
05	1056	7	FEW:02 70 FEW:02 280	10.00		81	27.2	73	22.9	39	3.9	22	21	260		29.82			29.82	FM-15	0.00	29.78
05	1156	7	FEW:02 80 FEW:02 280	10.00		85	29.4	78	25.6	40	4.4	20	25	260	30	29.80			29.80	FM-15	0.00	29.76
05	1256	7	FEW:02 80 FEW:02 280	10.00		86	30.0	80	26.7	39	3.9	19	29	250	33	29.79	6	+0.04	29.79	FM-15	0.00	29.75
05	1356	7	FEW:02 80 FEW:02 280	10.00		85	29.4	79	25.9	39	3.9	20	30	260	41	29.78			29.78	FM-15	0.00	29.74
05	1456	7	FEW:02 80 FEW:02 280	10.00		82	27.8	75	23.9	38	3.3	21	31	260	39	29.77			29.78	FM-15	0.00	29.73
05	1556	7	FEW:02 80 FEW:02 280	10.00	-RA:02  RA:61	80	26.7	72	22.4	38	3.3	22	26	270	38	29.76	6	+0.02	29.77	FM-15	0.00	29.72
05	1656	7	FEW:02 100 FEW:02 280	10.00		77	25.1	69	20.4	38	3.3	24	26	270	38	29.76			29.77	FM-15	T	29.72
05	1756	7	FEW:02 80 FEW:02 280	9.00		74	23.3	65	18.2	40	4.4	29	24	280	36	29.76			29.76	FM-15	T	29.72
05	1856	7	FEW:02 80 FEW:02 280	10.00		70	21.1	61	15.9	42	5.6	37	31	260	40	29.77	3	-0.01	29.78	FM-15	0.00	29.73
05	1956	7	FEW:02 280	10.00		69	20.6	60	15.3	43	6.1	39	25	270	31	29.80			29.80	FM-15	0.00	29.76
05	2056	7	FEW:02 280	10.00		68	20.0	59	14.9	43	6.1	40	29	270		29.82			29.83	FM-15	0.00	29.78
05	2156	7	CLR:00	10.00		67	19.4	58	14.4	44	6.7	44	32	250	39	29.82	2	-0.01	29.83	FM-15	0.00	29.78
05	2256	6	CLR:00	9.00	-SN:03  SN:71								20	270		29.81			29.82	FM-15	T	29.77
05	2356	6	CLR:00	9.00	-SN:03  SN:71								22	280		29.81			29.82	FM-15	T	29.77